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EXAMINER

KRYLOVA, IRINA

ART UNIT	PAPER NUMBER
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1764

NOTIFICATION DATE	DELIVERY MODE
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12/06/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Attachment to Advisory Action

1. Applicant's amendment filed on November 23, 2010 has been fully considered. Specifically, by the amendment claims 8-14 and 17-19 are cancelled and new claims 20-24 are added. However, the amendment is not entered given it raises new issues that would require further consideration and/or search.

2. With respect to new issues, though the newly added claims 20, 22-24 are closely related to claims 9, 11, 12 which were previously considered, now cancelled, however, the newly added claim 21 recites aluminum hydroxide representing 75% by weight of plasto-elastomeric composition, wherein the related claim 14, now cancelled, recites aluminum hydroxide being present in quantities of up to 75%. Since "up to 75%wt" is a broad range of 0-75%, therefore, the specific quantity of 75% of aluminum hydroxide as claimed in newly added claim 21, was not previously presented and would require further consideration and/or search.

3. Regarding the rejections of claims 2-4, 6-19 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Yamanaka** (US 2003/0013820) and claims 8, 10, 13 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957), **Yamanaka** (US 2003/0013820) in further view of "Hawley's Condensed Chemical Dictionary", 14th Edition, 2002, by John Wiley & Sons Inc., claims 2-4, 6-19 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali**

(WO 2004/026957) and **Sullivan et al** (US 2004/0209707); claims 10, 13 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Sullivan et al** (US 2004/0209707), in further view of “Hawley’s Condensed Chemical Dictionary”, 14th Edition, 2002, by John Wiley & Sons Inc.

Applicant argues that:

- a) **Carfagnini** (EP 230,212), **Credali** (WO 2004/026957) and **Yamanaka** (US 2003/0013820) or **Sullivan et al** (US 2004/0209707), either taken alone or in combination do not teach every element of the present claims; no basis in the art has been identified for combining or modifying the cited references; **Carfagnini** recites the use of filler but provides no guidance as how to incorporate such fillers with the composition and yet retain desired properties;
- b) EP 1,043,733 cited by **Credali** shows that a heterophase copolymer having at least 45%wt of elastomeric phase based on ethylene copolymerized with an alpha olefin, and thermoplastic phase based on propylene negatively affects the physical and mechanical properties of the polymer; while these compositions incorporate large amounts of flame retardant filler, the very high levels of filler negatively affect the physical-mechanical properties of the polymer material, and in particular lead to low elongation values (P. 2, lines 15-24 of Credali).

4. Examiner disagrees.

Carfagnini clearly recites the use of fillers (p. 4, lines 18-25). Though **Carfagnini** does not specify how to incorporate such fillers with the composition and yet retain desired

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properties; **Credali** discloses the similar composition as **Carfagnini**, further specifying incorporation of 40-80% of inorganic fillers.

Credali cites EP 1,043,733 as showing that incorporation of flame-retardant inorganic filler into a composition comprising a heterophase copolymer having at least 45%wt of an elastomeric phase, and further a thermoplastic polypropylene phase leads to low elongation (p. 2, lines 15-24 of **Credali**). **Credali** further continues that in order to compete with plasticized PVC, it would be necessary to provide flexible polyolefin compositions, having low flexural modulus and hardness, capable of incorporating large amounts of filler without deterioration of physical and mechanical properties (p. 2, lines 25-29 of **Credali**). To make the composition “flexible” and “having low flexural modulus and hardness, capable of incorporating large amounts of filler without deterioration of physical and mechanical properties”, **Credali** discloses the use of high amounts of elastomeric fraction (75-92%wt), as cited on p. 3, lines 22-27. Therefore, the level of deterioration or retaining of physical and mechanical properties of the plasto-elastomeric composition in the presence of large amount of inorganic filler depends on amount of elastomeric fraction present in the composition. On the other side, large amounts of inorganic fillers ensure good flame retardant properties, therefore, it would have been obvious to a skilled artisan to make variation between the amount of used elastomeric fraction of the plasto-elastomeric composition on one side and amount of added inorganic filler on the other side to find to desired combination of flame-retardant and also physical-mechanical properties as well. Furthermore, instant claims 15 or 19

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are silent with respect to amount of elastomeric fraction in the plasto-elastomeric composition.

5. Applicant further argues that **Credali** uses solid catalyst comprising a halide or halogen alcoholate of Ti and an electron donor supported on anhydrous magnesium chloride, whereas **Carfagnini** employs a non-halogenated phenolic resin with an aromatic carboxylic acid as a catalyst. Therefore, there is no evidence that a person of skill in the art would have expected that filler of **Credali** could have been successfully used under the reaction conditions of **Carfagnini**.

6. Examiner disagrees.

It is noted that the catalyst of **Credali** comprising a halide or halogen alcoholate of Ti and an electron donor supported on anhydrous magnesium chloride, to which Applicant is referring to, is a catalyst for copolymerization of propylene, ethylene and diene; or a sequential polymerization (p. 6, lines 27-30) to produce heterophasic polyolefin composition; whereas the non-halogenated phenolic resin in conjunction with aromatic carboxylic acid of **Carfagnini** is a cross-linking catalyst for cross-linking of EPDM (p. 2, lines 37-40). Further, **Carfagnini** clearly states that inorganic fillers may be added to the composition (p. 4, lines 18-23 of **Carfagnini**) for the purpose of enhancing the processability and/or properties of the materials (p. 4, lines 54-56). Thus, it would have been obvious to a skilled artisan that inorganic fillers can be successfully used in the composition of **Carfagnini** as well.

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7. Furthermore, since **Carfagnini** discloses a process for preparing plasto-elastomer composition from EPDM and polyolefin using non-halogenated phenolic resin together with an aromatic carboxylic acid, which process avoids environmental and personal risk stemming from production of chlorine, requires lower temperatures and less time than the convention processes, as admitted by Applicant on page 10, lines 1-10 of the response filed on November 23, 2010, which composition may further comprise inorganic fillers, and **Credali** discloses a similar EPDM-polyolefin composition but specified the use of 40-80%wt of fillers including aluminum hydroxide, calcium carbonate and barium sulphate, wherein the composition of **Credali** comprises self-extinguishing properties while retaining physical and mechanical properties, therefore, it would have been obvious to a one of ordinary skill in the art to combine the teachings of **Carfagnini** and **Credali** and include the 40-80%wt of filler in the composition of **Carfagnini** as well so that the composition of **Carfagnini** would comprise good flame-retardant properties but also retain physical and mechanical properties, as taught by **Credali**, as well.

8. Applicant further argues that **Yamanaka** (US 2003/0013820) does not disclose a process for producing a plasto-elastomeric compound in the presence of non-halogenated alkyl-formaldehyde resin. Examiner disagrees. Though **Yamanaka** does not disclose a process for producing a plasto-elastomeric compound in the presence of non-halogenated alkyl-formaldehyde resin, however, **Yamanaka** is a secondary reference. Secondary reference does not need to teach all limitations. "It is not

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necessary to be able to bodily incorporate the secondary reference into the primary reference in order to make the combination.” *In re Nievelt*, 179 USPQ 224 (CCPA 1973).

9. Applicant further argues that composition of **Sullivan et al** only contains an EPDM rubber and does not disclose a process for producing a plasto-elastomeric compound in the presence of non-halogenated alkyl-formaldehyde resin. Examiner disagrees.

Though **Sullivan et al** does not disclose a polyolefin and a process for producing a plasto-elastomeric compound in the presence of non-halogenated alkyl-formaldehyde resin, however, **Sullivan et al** is a secondary reference. Secondary reference does not need to teach all limitations. “It is not necessary to be able to bodily incorporate the secondary reference into the primary reference in order to make the combination.” *In re Nievelt*, 179 USPQ 224 (CCPA 1973).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Irina Krylova/
Examiner, Art Unit 1764

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1764